

3. Chicago, IL, has a population of 443,532 people. Detroit, MI, has 74,885 more people than Chicago. Dearborn, MI, has 396,241 less people than Detroit.

a. What is the total population of all three cities? Draw a tape diagram to model the word problem.

Then, solve the problem.

Chicago: 443,532

Detroit: 518,417

Dearborn: 122,176

$$\begin{array}{r} 443,532 \\ + 74,885 \\ \hline 518,417 \end{array}$$

$$\begin{array}{r} 518,417 \\ - 396,241 \\ \hline 122,176 \end{array}$$

$$\begin{array}{r} 518,417 \\ + 443,532 \\ + 122,176 \\ \hline 1,084,125 \end{array}$$

⑤

C	Det	DB
443,532	518,417	122,176

b. Round to the nearest hundred thousand to check the reasonableness of your answer for the population of Detroit, MI.

518,417

500,000 people

④ The total population of all three cities is 1,084,125.

c. Record each city's population in numbers, in words, and in expanded form.

Chicago	443,532	four hundred forty three thousand five hundred thirty two	$400,000 + 40,000 + 3,000 + 500 + 30 + 2$
Detroit	518,417	five hundred eighteen thousand four hundred seventeen	$500,000 + 10,000 + 8,000 + 400 + 10 + 7$
Dearborn	122,176	one hundred twenty two thousand one hundred seventy six	$100,000 + 20,000 + 2,000 + 100 + 70 + 6$

d. Compare the population of Chicago and Dearborn using >, <, or =.

443,532 > 122,176

e. John lives in Fredericksburg, VA, which has a population of 51,237. He says that Detroit's population is about 10 times as large as Fredericksburg's population. Explain John's thinking.

① Round to nearest 10 thousand

51,237
50,000

100 Th	10 Th	Th	H	T	O
5	1	2	3	7	

John's thinking is correct because Detroit's population is about 500,000.
 $10 \times 50,000 = 500,000$